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Empowering Learners Using Active Learning in Higher Education Institutions

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Abstract

Higher education institutions are expected to produce skillful, problem solver, and competent graduates. This becomes possible when the instructors are using the appropriate teaching methodology and the learners are active and empowered in the teaching-learning process. In relation to this, constructivism theory emphasized that the learner is the center of the learning and the instructors playing an advising and facilitating role. In the teaching-learning process, when the learners are empowered using the appropriate teaching methodology, they feel a sense of confidence, capability, competence, and self-esteem, enabling them to meet life's challenges more effectively. Therefore, a shift in theory (education theory) to a more student-centered approach using active learning is recommended because this approach has its own role to make the students creative and competent in their study. Thus, this chapter of a book tried to address the contribution of active learning in the empowerment of learners in higher education institutions.

Keywords: active learning, empowerment, higher education institution, learners

1. Introduction

It is clear that students in higher learning institution are expected to be creative, proficient, and problem solver in their field of study. For these to be happen, the teaching-learning process in higher learning institutions should be implemented properly and use the right teaching methodology in relation to the nature and content of the course or subject. In different countries of the world, education is now moving toward new practices in teaching and learning to make the learners creative and competent which is active learning (student-centered method)

because the traditional teaching method (lecture) is not adequately preparing students for the real world of work. The new practices of teaching that active learning is focused on are creativity and problem solving if it is properly implemented [1]. In higher education institutions and other education levels (i.e., primary and secondary schools), student-centered methodology specifically active learning is recommended [2, 3] to make the learners creative and proficient in their learning. Active learning is an innovative model for the provision of high-quality, collaborative, engaging, and motivating education [4]. It engages learners in the process of learning through activities and/or discussion in class, and it increases learners' higher order thinking as compared to passively listening to a lecturer [5].

In active learning, students' activity and commitment in the teaching-learning process are key elements [6]. Active learning involves students in their learning using different activities such as reading, writing, discussion, or problem solving, which promote analysis, synthesis, and evaluation of class content and engages students in two aspects, i.e., doing things and thinking about the things they are doing ([7], p. 2). In addition, the students can also engage in the assessment and feedback process.

The assessment and feedback which are implemented in the active learning classroom have also its own contribution for the empowerment of students. If the instructors are using authentic assessment methods and provide effective feedback and if the students participated in the assessment and feedback process, it is possible to increase their performance and confidence in their learning.

Currently, higher education institutions face challenges with skill for learning, skill for life, and skill for work. Many higher education institutions are responding to this challenge by implementing strategies designed to empower learners, i.e., giving them more autonomy, ownership, and responsibility for their learning. Using active learning in the classrooms, laboratories, and fields (practical sites), it is possible to empower students in their learning. In the teaching-learning process, when the learners are empowered using the appropriate teaching methodology, they feel a sense of confidence, competence, and self-esteem, enabling them to meet life's challenges more effectively. Therefore, a shift in theory (education theory) to a more student-centered approach using active learning is recommended [8] because this approach has its own contribution to make the students creative and proficient in their study.

Thus, this chapter tried to address the contribution of active learning to empower learners in higher education institutions. In addition to this introduction section, the following is the list of possible topics which will be treated in the chapter.

2. Method

This manuscript is a review of different sources. Articles in active learning and assessment are collected, identified, and reviewed from online databases and library catalogs from the University of Johannesburg to access electronic collection of journals and research studies. The majority of the reviewed documents were journal articles. But there are also books,

book chapters, conference proceedings, and thesis. The analysis and discussion reviews are presented together based on the different topics which are related to the issue, and finally conclusions are given.

3. Active learning and active learning strategies

3.1. Active learning

A Chinese philosopher Confucius from 551 to 479 BC (in the fifth century BC) wrote the following quotation: "I hear and I forget; I see and I remember; I do and I understand," and this quote is highly related to active learning. As to Hativa [9] this quotation indicated that students learn meaningfully only when they are doing something either physically or mentally with the information and learning materials. In active learning the learners are the main agents in the learning process not the instructors. Hativa added that it is through involvement and doing that learners truly contribute in the learning process. So, for learning to be active, students do more than listening; they have to read, write, discuss, or be involved in problem-solving activities [10].

The fundamental concept of active learning is to advance the learning experience of learners and the teaching experience of instructors. When learners are active in the classroom, they are engaged in higher-order thinking (analysis, synthesis, evaluation) and in a variety of activities such as reading, discussing, writing, and problem solving [7]. Such classroom activities put the student at the center of the learning process enabling them to improve their critical thinking skills [10]. Active learning can be realized by any method of teaching which actively involves students in the real learning process of [6].

Studies indicated that active learning has a greater impact on student mastery of higher and lower level cognitive skills. It increases students' performance across the different disciplines. On average, students who learn in conventional lecture courses are 1.5 times more likely to fail than students who learn in courses with only active learning [5]. Mickelson et al. [8] also indicated that active learning shows that student involvement in the learning process leads to deep learning.

3.2. Active learning strategies

In the teaching-learning process, instructors in higher institutions are required to use different active learning techniques or strategies to empower students in their learning. The selection of the techniques depends on the nature and content of the subject they are teaching. The active learning strategies comprise different activities that share the common elements of involving learners in doing things and thinking about the things they are doing [7]. The use of different active learning strategies can significantly improve the teaching-learning process.

Different authors, Mocinic [11] and Oliveira et al. [12], proposed the following list of active learning methods to be used by instructors in higher learning institutions to make the students creative and proficient in their learning:

- a. Collaborative learning
- b. Discussion methods: discussion, case study, and brainstorming
- c. Role play
- d. Games involving simulation of imaginary situations
- e. Problem-based teaching
- f. Projects (individual or group)
- g. Peer teaching
- h. Debates
- i. Short demonstrations followed by class discussion, etc.

Integrating the above-listed active learning methods in the instructional process based on the nature and contents of the course will make the student's learning successful and competent. For example, collaborative learning is one of the best methods of active learning which can facilitate learner's critical thinking. Peer interactions during collaborative learning can be helpful for the learner's development of critical thinking [13]. Therefore, as Eison [14] stated, the above-listed active learning strategies increase students:

- Creativity
- Critical thinking
- Discussion or speaking with other students, in a small group, or with the whole class
- Exploring personal attitudes and values
- Providing and receiving feedback
- Expressing ideas through writing

Hence, to have the above-listed benefits, using different active learning strategies properly inside and outside the classroom is very important specifically for the learners. Eison [14] suggested that instructors have used larger proportion of time in helping students to develop their understanding and skills and a lesser proportion of time in transmitting information when they use active learning strategies appropriately. In this strategy (active learning), instructors provide opportunities for learners to apply and demonstrate what they are learning. In addition, they provide opportunities for learners to receive feedback from peers and/or the instructors themselves. In general, the active learning strategies have the following characteristics in promoting students' learning in the classroom [7]:

- Students are actively involved in the instructional process more than just listening.
- More emphasis is given on advancing students' skills, and less is given on transmitting information.

- Students are involved to develop their higher order thinking skills.
- Students are actively involved in different activities (e.g., writing, discussing, and reading).
- Emphasis is placed on the learners' investigation of their attitudes and values.

4. Psychological theories of active learning

It is clear that students have different areas of interest and learning styles in the instructional process. However, the traditional way (lecture method) of teaching assumes that all students learn the same, and they cognitively process information the same way at the same rate [1]. This is in fact impossible. Currently, there is a shift in education theory to a more student-centered approach specifically active learning methodology [8], because this approach has its own contribution for the learners' better understanding of the issue/lesson presented to them. Student-centered teaching method emerged from constructivist learning theory [15]. This theory was frequently described as student-centered teaching method because it emphasized on student's active role in the teaching-learning process [16].

According to Walsh and Inala [17], this approach seeks to engage students in their own learning and for them to actively take part in the learning process themselves rather than being simply fed information by their instructors. From the different theories, constructivism theory emphasized that the learner is the center of the learning process, while the instructors playing an advising and facilitating role. Here in constructivism theory, the learner is active rather than passive. Constructivist believes that knowledge is experienced-based activities rather than directed by instructors [18] and it is not received from the outside environment; rather, the student interprets and process what is received through the senses to create knowledge.

According to Hativa [9], the theory of constructivism entails that students learn well only when they are active in the teaching-learning process rather than passive, when they use what they are taught to alter their prior knowledge, and when they construct their own understanding. In addition, learners develop their own interpretation of the issue presented to create a theory that makes sense to them. They then connect the new knowledge with the personal knowledge structure that they construct.

Hativa [9] added that in the constructivist learning theory, "meaningful learning takes place only when students actively process the new information, interpret it, and link it to their present knowledge." This theory has an implication for effective classroom teaching in a way that instructors should encourage students' active involvement in the learning process and learners gain valuable information for their creativity and competency.

In active learning, learners construct and formulate knowledge based on previously acquired beliefs and experiences. This theory has huge contribution in empowering learners using active learning methodology. The process followed to empower learners using active learning requires a dynamic interaction between the learners and their experience. The theoretical foundation of critical thinking and higher-order thinking skills is the constructivist principle

of learning through experience [8]. Mickelson et al. [8] added that, during active learning as to constructivist theory, the students take control of their learning.

5. Learner empowerment

Empowerment in the academic setting is the approach and practice of supporting learners to become able to shape their learning and study for a sustainable future. So, learner empowerment is giving more autonomy and ownership for the learners in their learning in the instructional process and ultimately produces an intrinsic desire to learn [19]. Learners become effective in their learning when they are empowered. Learners should be empowered for every activity in the instructional process. When learners are empowered, they become motivated, work harder, and strive for a better performance [20]. For this to happen, the role of the instructors involves guiding and facilitating rather than transmitting information to the learners. This means the instructor has to make the teaching-learning process more active to empower the learners.

Furthermore, as to Schrodtt et al. ([19], p. 184), empowered learners should:

- i. Be more likely to see the meaningfulness of the course content and activities.
- ii. Feel a greater sense of self-efficacy in performing classroom tasks.
- iii. Be more likely to perceive that learning course content can have an impact.

In relation to this, Kirk et al. ([21], p. 589) found out “that highly empowered students reported better grades, fewer behavioral incidents, increased extracurricular participation and higher educational aspirations than students who were less empowered.”

Therefore, empowerment is a process enabling the learner to think, believe, and carry out an activity and criticize his/her own work and made decisions autonomously. Thomas and Velthos as cited in Frymier and Houser [22], empowerment consists of four dimensions:

- **Meaningfulness**—considers the value of tasks in relation to one’s own beliefs, ideas, and standards. If the work is not meaningful, the students will not be motivated to generate high-quality work (Glasser as cited in [22]).
- **Competence**—means that the person feels qualified and capable to perform the necessary activities to achieve the goal. The feelings of empowerment are decreased when the individual lack self-confidence in their skills and feel intimidated by the task or goal.
- **Impact**—means that the accomplishment of a task is perceived to make a difference in the scheme of things. The more impact individuals believe they have, the more internal motivation they should feel.
- **Choice**—refers to the degree to which persons self-determine their task goals or methods for accomplishing them. This model predicted that great choice contributes to feelings of increased empowerment (Thomas and Velthouse as cited in [22]).

Therefore, empowerment can be seen as a goal aimed at cooperation, based on mutual respect, discovery of perspectives, development of vision, and provision of options for reaching creative solutions [23]. Angela [20] mentions that learner empowerment is both a means and an end. As a means, it helps learners to attain and enjoy quality learning. As an end, student empowerment is a desirable goal that all teachers should pursue because, when students feel that they can do something and do not feel powerless in their learning environment, the quality learning begins.

Angela [20] further explains the important components of student empowerment: empowerment through involvement and empowerment through partnership. Firstly, student empowerment is possible only through active involvement in their learning, and the best ways to empower students are to allow them prearranged and to let them make their own decisions. Secondly, student empowerment is not a one-party activity. It requires genuine understanding and acceptance on the part of the school authority, including teachers and the school administration. Without partnership, student empowerment in the school setting is impossible. To this effect, empowering students are essential, and the students should have confidence in the knowledge and skill they possess. This happens when they are empowered through a range of assessment methods.

6. Contribution of active learning for empowerment

The active learning methods that the instructors are using in the classroom have huge contribution to the empowerment of learners. To empower students in their learning, instructors should apply multiple strategies in the classroom and in the field (practical sites). If the instructors use different strategies of active learning, the involvement of students in their learning becomes high, and there is a chance for the students to be proficient in their learning and real world of work. As to Bonwell and Eison [7], students' involvement in their learning can be further improved by the instructor's use of different active learning strategies. If the students are actively involved in active learning process using different strategies, they develop higher order thinking tasks as analysis, synthesis, and evaluation. Therefore, these higher order thinking tasks increase the learner's creativity and make them empowered in their learning.

It is clear that learning can be empowering and active learners know this. They are used to succeed and praise for their accomplishments. However, there are a few students in every classroom who tend to learn differently than their most successful classmates [24]. In the instructional process, the instructors should give chance for learners to cooperate with each other using different strategies. The learner's cooperation in the learning process helps them to share their experiences and improve their learning. Active learning is contributed for the active participation of students in class discussions and to improve their understanding of class contents. In general, if active learning is properly implemented in the instructional process in higher learning institution and other education levels, it develops student's skills for critical thinking and increases their competency. Critical thinking is one of the skills in which student-centered learning promotes and this learning approach shifts the focus of power, in terms of what is learnt and how it is learnt, from the instructor to the student [25]. Therefore, the development of higher order thinking skills, critical thinking skills, creativity, and competency is the result of proper implementation of active learning, and this empowers student's learning and study.

7. Assessment and feedback in active learning and empowerment

Assessment and feedback are the fundamental tools in active learning and a base to the empowerment of learners if they are properly implemented. The assessment methods which are developed in relation to any teaching mode should be aligned with the learning outcomes which will be measured. As to Sluijsmans et al. [26], assessment as a tool for learning has a great impact on the students' learning and development into reflective practitioners.

Empowering learners in the assessment process encourages or engages them in real-life situations. Empowering learners with different assessment methods has a major impact on their results, and learners should be empowered for every activity in the teaching and learning process [27]. Angela as cited in [27] noted that learner empowerment is possible only through active involvement in their learning.

In active learning, the two forms of assessment, that is, formative and summative assessments, can be used and play a valuable role. According to Gibson and Shaw [28], formative assessment can be achieved through the observation of classroom activities such as discussions, student presentations, self- and peer assessments, and group work. Obviously, formative assessment does not often occur in lecture-based teaching where communication is one way, with little or no input from the learners. Active learning techniques, however, provide more opportunities for formative assessment to take place as the instructor observes student performance and modifies the learning experience accordingly. However, unlike formative assessment, summative assessments are not used to adjust instruction during learning; instead, they are more likely to be used to determine student scores and grades [28].

The active learning process invites learners to assess their own and others' work, which means self- and peer assessments are the dominant assessment methods in the empowerment of students. Amo and Jareno [29] noted that self- and peer assessments are being increasingly used in higher education to help students learn more efficiently. Assessment can provide feedback to the instructor themselves to improve their instructional process and to check how the learning is going on. Recent research results showed that for student-centered teaching (active learning), alternative assessment strategies such as authentic assessment can be used to evaluate both student's active learning process and their learning outcome [30]. Authentic assessment is a form of assessment in which learners are asked to perform and establish meaningful application of essential knowledge, attitudes, and skills to the real-life situations. The following are samples of the common assessment methods used in active learning methods.

7.1. Peer assessment

Peer assessment refers to the assessment of students by other students, and it is a mode of assessment associated with the use of active learning [31]. It encourages learners to be more responsible in their learning and performance [32]. Peer assessments are based on the behaviors of others and use some type of recording tool like a checklist, rating scale, or rubric developed from the learning objectives to guide the assessment [28].

7.2. Self-assessment

Self-assessment is an assessment which allows students to assess their own performance [27], and it is a main tool to empower students in the assessment process [33]. It encourages students' self-regulation of their learning and setting of goals for self-improvement. It is most effective when it is embedded into the learning in the unit, and students are provided with the opportunity to learn from their mistakes.

7.3. Observation

Observation is the main tool to gather ongoing information of students' performance. It can take place in a variety of settings, across many activities, and employ a number of different tools to record information including checklists, anecdotal records, frequency count tables, and rubrics [28]. Observational assessments empower measurement of students' behavior, skills, and abilities in ways not possible via traditional assessment (quiz, test, or exam). When planning to observe students, instructors should consider whom they want to observe, what to observe, and how to evaluate and document what they see.

7.4. Presentations and demonstrations

Presentations and demonstrations are both authentic assessment techniques that are important in active learning classrooms [28]. When learners are required to present and demonstrate their work to an audience inside and outside the classroom, there is a chance to get feedback from the audiences and learn from it to improve their performance. These two assessment methods provide students with the opportunity to make the connection between their learning and real-world learning environments.

In relation to each of the abovementioned assessment methods, there should be appropriate and timely feedback. Feedback is an information provided by an agent (e.g., teacher, peer, self, book, experience) regarding aspects of one's performance or understanding [34]. Sadler [35] noted that giving detailed feedback for students to their work, with suggestions for improvement, should become a common practice in higher education. Hattie and Timperley [34] also added that effective feedback is characterized by its clarity, purposefulness, meaningfulness, and compatibility with students' prior knowledge. Therefore, if the assessment is supported by the provision of effective and appropriate feedback in the active learning process, it enhances the students learning and makes them competent in their field of study.

8. Conclusion

From different studies and literatures, it is indicated that empowering learner using active learning in higher education institutions and other education levels has its own contribution to make the learners creative and competent in their learning and study area. Instructors in the classrooms and outside (laboratory and practical sites) of higher learning institutions are

advised to use different active learning strategies based on the nature of the course with the support of appropriate assessment methods and feedback. If the learners are not properly assessed and given appropriate and timely feedback, they will not be effective in their learning, and their motivation to learn will decline. Therefore, the active learning strategies, assessment methods, and feedback (appropriate and timely) should be aligned together to empower learners in their learning. This learning strategy is supported and linked to the theory of constructivism. Therefore, using active learning in the instructional process is vital to empower learners and make them knowledgeable and competent in their study area.

Conflict of interest

There is no conflict of interest between the authors of this book chapter.

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